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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,532	06/03/2005	A Christian Tahan	GQUANTA-101	4780
7590 09/08/2006			EXAMINER	
Robert K Tendler			AWAI, ALEXANDRA F	
65 Atlantic Ave Boston, MA			ART UNIT	PAPER NUMBER
Doblon, Ivili			3663	
			DATE MAILED: 09/08/200	6

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	10/537,532	TAHAN, A CHRISTIAN				
Office Action Summary	Examiner	Art Unit				
	Alexandra Awai	3663				
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet w	rith the correspondence address				
A SHORTENED STATUTORY PERIOD FOR REPI WHICHEVER IS LONGER, FROM THE MAILING [ - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statu Any reply received by the Office later than three months after the maili earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNI 136(a). In no event, however, may a swill apply and will expire SIX (6) MO te, cause the application to become A	CATION. reply be timely filed  NTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 23.	<u>June 2006</u> .					
,	This action is FINAL. 2b) This action is non-final.					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
closed in accordance with the practice under	Ex parte Quayle, 1935 C.I	D. 11, 453 O.G. 213.				
Disposition of Claims						
4) Claim(s) 1,3,4 and 7-16 is/are pending in the	application.					
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1,3,4 and 7-16</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and/	or election requirement.					
Application Papers						
9)⊠ The specification is objected to by the Examin	er.					
10)⊠ The drawing(s) filed on <u>03 June 2005</u> is/are: a) accepted or b)⊠ objected to by the Examiner.						
Applicant may not request that any objection to the	e drawing(s) be held in abeya	nce. See 37 CFR 1.85(a).				
Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the E						
Priority under 35 U.S.C. § 119						
12) Acknowledgment is made of a claim for foreig a) All b) Some * c) None of:	n priority under 35 U.S.C.	§ 119(a)-(d) or (f).				
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
	3. Copies of the certified copies of the priority documents have been received in this National Stage					
application from the International Burea						
* See the attached detailed Office action for a lis	it of the certified copies no	t received.				
Attachment(s)						
1) Notice of References Cited (PTO-892)		Summary (PTO-413)				
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO/SB/08)  Paper No(s)/Mail Date  5) Notice of Informal Patent Application						
Paper No(s)/Mail Date <u>6/23/2006</u> . 6) Other:						

#### **DETAILED ACTION**

## Response to Amendment and Remarks

1. The declaration under 37 CFR 1.132 filed 6/23/2006 is insufficient to overcome the rejection of currently amended claims based upon 35 U.S.C. 112, first paragraph, as set forth in the last Office action because the statements either fail to address the rejections in a substantive fashion or are conclusions based on unfounded conjecture or misinterpretation of the literature. Although Applicant may swear to have performed experiments and obtained certain results, sworn statements concerning the mechanisms that produced the results are no more than Applicant's beliefs unless substantiated by a reasoned theory based upon physical laws – it being black letter law that the inventor need not know why the invention works. Because certain beliefs promulgated as facts defy physical laws as correctly interpreted from the literature, these beliefs will not be accepted as evidence.

In particular, it is noted that certain statements included in the declaration are either wrong or taken out of context, while others (i.e., the dissociation of protons from acids and the shape of the electromagnetic signal) are true but were never in contention. The laws for the formation of elements are complex and have been misinterpreted and misapplied by Applicant. A proton certainly *can* enter a nucleus in that nuclei comprising protons may fuse, and *classical* physics is not useful in predicting interactions on the atomic level (relevant to statements 18 and 24). This is possible because the strong force overcomes the electromagnetic repulsion mentioned by Applicant in statement 19. The neutron, having no charge, can also enter the nucleus, but this requires that that the nucleus and neutron *interact*, which is by no means a

Application/Control Number: 10/537,532

Art Unit: 3663

foregone conclusion. At no time did Examiner assert that neutrons cannot fuse with nuclei, as such would contradict the very existence the nuclear power industry. Examiner's analysis was almost entirely directed to the decay of protons. Note that the total neutron cross-section for <sup>74</sup>W<sup>184</sup> is only 9.057 barns for thermal neutrons.

Applicant seems to be arguing that individual tungsten nuclei undergo between 42 and 68 individual or simultaneous collisions with neutrons without prematurely decaying into an entirely different (undetected) element. Additionally, Applicant is apparently laboring under the misconception that free nucleons and nucleons within compound nuclei have the same energy and stability characteristics. This is not the case any more than hydrogen behaves in the same way as gold. The half-life of W<sup>189</sup> (63 nucleons from Es and 37 nucleons from Ra) is only 11.5 minutes. Adding the number of neutrons as proposed by Applicant (statement 6) would create increasingly unstable nuclei, and the more unstable the product, the more energy is required to produce it. Thermal neutrons do not have the requisite energy. Furthermore, there is no evidence that "after element formation from the addition of neutrons" that the individual added neutrons within the improbably formed, neutron-heavy nuclei would each decay by beta emission. In order to substantiate the statements on page 2 of the declaration, Applicant must provide evidence that elements such as W<sup>252</sup> can exist. A mathematical proof demonstrating the required energy, probability of formation and modes of decay or published literature illustrating the same will be accepted. If there is no evidence available, Examiner must conclude that any evidence of new elements is due to faulty calibration of Applicant's measuring instrumentation.

Regarding the issue of the neutron flux produced by the decay of protons, even if the production of new elements could proceed as posited by Applicant, this in no way explains how

individual protons are able to convert into protons in the current case. Applicant has apparently interpreted Examiner's discussion as claiming that protons cannot be transmuted into neutrons. This is a gross mischaracterization of Examiner's analysis. Examiner clearly stated that "[t]he decay of a proton *as described by the applicant* is essentially its fission into its constituent parts" and "[t]he decay scheme *posited by the inventor* actually only occurs inside nuclei when the binding energy of the mother nucleus is lower than that of the daughter nucleus" (emphasis added). Examiner is not "confused between the classical decay when an atom breaks apart ... and the transformation process that is going on here," because it is *not possible* that the process posited by Applicant is the one indicated in the articles, particularly Muller.

As faithfully reprinted from Muller's article, "This 'inverse neutron decay' does not occur for inertial protons because the sum of the rest energies of the decay products is greater than the proton mass itself ... we will show that this process is possible if the initial proton is accelerated ..." (p. 957). However, Applicant has taken Muller's findings out of context and failed to report essential matters that only serve to bolster Examiner's position. Although Applicant is now hypothesizing that the energy required to convert the protons in the experiments into neutrons is supplied by the 2-Hz field, Examiner has already addressed this issue by stating the following:

"It is not clear how either the magnetic field or extremely low frequency electromagnetic waves (extremely low frequency indicating extremely low energy content) can impart enough energy to the proton to spontaneously produce the additional mass needed to create a proton from a neutron" (Office Action dated 3/22/2006).

This is directly equivalent to stating that it is not clear how either the magnetic field or extremely low frequency electromagnetic waves are able to produce the required acceleration. The essential matter omitted by Applicant includes the following:

"The estimation of the proton lifetime is further complicated by the fact that even in the largest proton accelerators, the ratio a/M is exceedingly small. For example, the circular acceleration achieved at the CERN Large Hadron Collider (LHC) will only lead to  $a/M \approx 10^{11}$ . Since in the limit  $a/M \rightarrow 0$  the expressions used in the numerical treatment do not behave well, we cannot directly calculate the decay rate for such a small value of a/M. Instead we have to resort to a numerical extrapolation of our data ... If we assume the validity of this behavior down to a = 0 we find  $10^{26}$  years for the proton lifetime at LHC accelerations. Although this estimate gives a smaller lifetime than the one predicted by grand unified theories, it is evident that the effect is much too small to be detectable" (emphasis added, p. 958), and

"Furthermore, we have shown that under the influence of a sufficiently large acceleration, the proton becomes unstable and can decay via an inverse neutron decay process. The estimate of the decay rate showed, however, that enormous accelerations are necessary to detect this effect" (p. 959).

These excerpts demonstrate that Applicant is claiming that the experimental apparatus as shown on page 4 of the declaration is able to produce accelerations many, many orders of magnitude greater than the Large Hadron Collider at CERN, thereby reducing proton lifetime from  $10^{26}$  years to less than 360 seconds. There is absolutely no evidence to support such a claim. Indeed, the evidence submitted by Applicant unequivocally demonstrates that the experimental apparatus disclosed cannot produce any measurable neutron flux from free protons, and therefore that — even if the creation of new elements could proceed as set forth in the declaration — any newly created elements detected would not have been related in any way to proton decay. It is this Examiner's understanding that accelerating protons move, and that the aligning discussed by Applicant is mutually exclusive with movement.

With regard to the production of gravitons, Examiner has failed to locate disclosures within the cited literature (statement 36) that theorists have established the fact that gravitons can be produced with proton decay. In fact, Fayet states that the spin-2 graviton is hypothetical (Introduction), and that "proton decay has not been observed" (A20). Altarelli et al. seem

concerned with theoretical expressions of proton decay – and its improbability – that may provide for a unified theory. Given the number of cited articles, the quality of the reproductions and complexity of the subject matter, it is entirely possible that Examiner's inability to find the intended disclosures is a simple oversight. Accordingly, Examiner respectfully requests that Applicant particularly point out the statements that provide evidence that proton decay is practicable and that this decay results in gravitons, specifically gravity waves having energies on the order of 1.11 x 10<sup>4</sup> GeV.

With regard to Applicant's Remarks, the presence of radiation in and of itself does not prove that "something had occurred" due to any of the processes Applicant has discussed. Applicant has failed to account for background radiation. Additionally, although Applicant argues that the gamma rays allegedly measured are due to element production, it is not clear which reactions might account for this. For example, the absorption of neutrons by tungsten that Applicant postulates would not be energetic, but would rather *require* extremely large amounts of energy, and so no gamma radiation would result. Similarly, the subsequent beta decay hypothesized without scientific basis by Applicant does not lead to gamma radiation. The only gamma-producing process Applicant refers to is the electron-positron annihilation, which is not related to the alleged formation of elements, but instead to the alleged artificially produced proton decay. Fig. 9B is a *diagrammatic illustration* of a photograph that, according to Applicant, presents evidence of the phenomenon responsible for producing the reduced radio wave and reduced gluon, which are similarly related to Applicant's proton decay hypothesis, and are therefore not pertinent to the question of whether or not new elements are produced.

Application/Control Number: 10/537,532

Art Unit: 3663

With regard to the evidence that show what happened according to Applicant, Figs. 1-5 presented in the declaration are virtually illegible due to their shrunken aspect, and furthermore cannot definitively establish the presence of the particular elements Applicant refers to, or the process by which the elements were created. For example, the line labeled Es and Bk in Fig. 4a cannot be showing the amount of Es decaying into one of its daughter products because such would mean that even though the half-life of <sup>252</sup>Es is about 471.7 days, within minutes almost a fifth (it appears that weight in mg is on the y-axis of the plot) of the <sup>252</sup>Es has decayed into Bk, which now has a mass equal to about 80% of the original parent element. The other figures are similarly inscrutable. No meaningful consideration of the figures can be carried out until legible and properly labeled versions are presented.

Examiner accepts Applicant's admissions concerning the conventionality of 2-Hz signal generators. However, it is also noted that Applicant has failed to explain how unbound protons placed in a magnetic field are made to align, rather than move toward the negatively charged pole. The creation of the 2000 gauss magnetic field is not as clear as the creation of the radio signal. Is Applicant using a permanent magnet or an electromagnet, and what is the relative position of the sample subjected to the field and the apparatus Applicant employs?

With regard to the rejection of the claims under 35 U.S.C. 102, it is noted that Applicant has overcome certain issues by altering the scope of the claims, and so new grounds of rejection have been set forth. However, the fact remains that it is not necessary for the claimed method to include the step of producing energy. As clearly set forth in the previous Office Action, if the prior art teaches every step required for the production of energy as postulated by Applicant, and if Applicant's invention creates energy, then the method taught by the prior art must also produce

Art Unit: 3663

energy. Moreover, in the device taught by Boettner et al., the objective lens is subjected to 2 Hz waves by electromagnetic voice coils – these coils reading on the claimed antenna, and this lens comprises nuclei. Applicant has apparently offered a number of conclusory statements concerning what Boettner et al. allegedly fails to teach, but has not directly argued against Examiner's statements delineating what Boettner et al. is interpreted as teaching.

## Specification

- 2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
- 3. The following is a quotation of the first paragraph of 35 U.S.C. 112:
  - The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
- 4. The specification is objected to under 35 U.S.C. 112, first paragraph as failing to provide an adequate written description of the invention and as failing to adequately teach how to make and/or used the invention, i.e. failing to provide an enabling disclosure. There are many factors recognized by the MPEP that are to be considered when determining whether there is insufficient evidence to support a determination that a disclosure satisfies the enablement requirement, including the nature of the invention, the level of predictability in the art and the existence of working examples. See MPEP 2164.01(a). The examiner met the initial burden of challenging an asserted utility in the previous Office Action. Once the examiner has provided evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility of the invention,

the burden shifts to the applicant to provide rebuttal *evidence*. See MPEP 2164.07(B). It is considered by the examiner that the invention of the present application is lacking in utility because it relies on phenomena that are not proven and/or are contrary to the current understanding of physics and because, even if it were possible to practice the invention, the applicant has not described the apparatus used to implement it in sufficient detail to enable a skilled artisan to make and use it without undue experimentation.

The materials and arguments provided by Applicant do not constitute convincing rebuttal evidence as set forth in section 1 of this Office Action. All enablement issues excepting then enablement of the 2-Hz signal generator remain unresolved, and so those relevant grounds for rejection are herein incorporated by reference to the previous Office Action in their entirety. It is thus considered that the examiner has set forth a reasonable and sufficient basis for challenging the adequacy of the disclosure. The statute requires the applicant itself to inform, not to direct others to find out for themselves; *In re Gardner et al*, 166 U.S.P.Q. 138, *In re Scarbrough*, 182 U.S.P.Q. 298. Note that the disclosure must enable a person skilled in the art to practice the invention without having to design structure not shown to be readily available in the art; *In re Hirsch*, 131 U.S.P.Q. 198.

# **Drawings**

5. Fig. 11B is objected to because the lines indicating counts are blurred and indistinct.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one

figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. Although Applicant is receiving a careful reconsideration of the application in view of a bona fide effort to respond to the previous Office Action despite the absence of corrected drawings, this objection to the drawings will not be held in abeyance.

#### Claim Rejections - 35 USC § 112

- 6. Claims 1, 3, 4 and 7-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention as discussed in section 4 of the previous Office Action and section 1 of this Office Action.
- 7. Claims 1, 3, 4 and 7-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter that was not

Art Unit: 3663

described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention as discussed in section 4 of the previous Office Action and section 1 of this Office Action.

- 8. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 9. Claims 1, 3, 4 and 7-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "room temperature" in claims 1, 8 and 11 is a relative term which renders the claim indefinite. The terms "adjacent" and "proximate" in claims 1, 8, 12 and 13 are similarly indefinite. The terms are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "low frequency period radiation" is indefinite because it is unclear what type of radiation is being used and what is considered low frequency. Claims 1, 8 and 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements include those components needed to create the magnetic field, locate or place nuclei (protons) in the field and, with respect to particular claims, maintain the proton at room temperature.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on

notice that the applicant intended to so redefine that claim term. *Process Control Corp.* v. *HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "created" in claim 14 is used by the claim to mean "supplied", while the accepted meaning is "to bring into existence." The term is indefinite because the specification does not clearly redefine the term.

## Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 11. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson et al.

Jackson et al. disclose an apparatus for magnetic resonance and teach a method of using it. As is typical of NMR technology the apparatus is based on subjecting a specimen (containing nuclei and protons) to a large magnetic field – 10,000 Gauss is named as a typical laboratory magnet, and skilled artisans are aware that NMR technology invariably uses magnetic fields of such strength – and radiofrequency pulses (see col. 2 and Fig. 2 in particular). The coil (16) is the antenna adjacent to the nuclei. Note that Applicant has not set forth what "low frequency" encompasses, and so the radiofrequencies used in the cited art may be considered to be low. As discussed in section 1, it is not necessary for energy production to be recited, as such would be inherent to the process if it is possible as alleged by Applicant. As to limitations which are considered to be inherent in a reference, note the case law of *In re Ludtke*, 169 USPQ 563, *In re* 

Swinehart, 168 USPQ 226, In re Fitzgerald, 205 USPQ 594, In re Best et al., 189 USPQ, and In re Brown, 173 USPQ 685, 688.

12. Claims 13, 15 and 16 rejected under 35 U.S.C. 102(b) as being anticipated by Bendall.

Bendall disclose an apparatus comprising a superconducting electromagnet or permanent magnet assembly – capable of producing NMR strength magnetic fields, which exceed 2000 gauss (claim 15), a sample (containing protons), a radiofrequency coil reading on an antenna adjacent to protons, and a radiofrequency generator (see Fig. 12). Although Bendall does not disclose the specific values to which the antenna is tuned (1-3 Hz at 12-12.5 volts) in the current application, such are actually limitations of intended use of the radiofrequency generator. Note that a method limitation or recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP § 2111-2115, particularly MPEP § 2114, which states:

"A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim." *Ex parte Masham*, 2 USPQ2d 1647.

"Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function." *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531.

"[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.* 15 USPQ2d 1525, 1528.

The referenced prior art is capable of being used in the same manner and for the same intended purpose as Applicant's invention. This is evidenced by statements in col. 3 of the reference detailing how the radiofrequency generator may be modulated to produce the desired signal.

Art Unit: 3663

#### Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Awai whose telephone number is (571) 272-3079. The examiner can normally be reached on 9:30-6:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA September 2, 2006

JACK REVIH SUPERVISORY PATENT EXAMINER